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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/791,203	XIN ET AL.
	Examiner	Art Unit	
	Bernard Krasnic	2624	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 November 2007*.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   The amendment filed 11/12/2007 have been entered and made of record.

2.   The Applicant has canceled claim(s) 2.

3.   The application has pending claim(s) 1 and 3-20.

4.   In response to the amendments filed on 11/12/2007:

The "Objections to the claims" have been entered and therefore the Examiner

withdraws the objections to the drawings.

.   The "Claim rejections under 35 U.S.C. 112, second paragraph" have been

entered, but the Applicant has not amended a few of the addressed 35 U.S.C. 112,

second paragraph issues and therefore the Examiner has once again addressed these

issues.

5.   Applicant's arguments with respect to claims 1 and 3-20 have been considered

but are moot in view of the new ground(s) of rejection.

The Applicant has amended claim 1 to incorporate the limitations "while

downsampling" and "in which the filtering and the downsampling is performed jointly"

which raise new grounds of rejection. Similarly, the Applicant has amended claim 20 to

incorporate the limitations of "while downsampling", "producing for each macroblock, a

macroblock coding type and a macroblock transform type", and "an encoder configured

to compress the progressive picture" which raise new grounds of rejection. The current

art rejections will be discussed below.

6.   Applicant's arguments filed 11/12/2007 have been fully considered but they are

not persuasive.

The Applicant alleges, "Also, in Callway the de-interlacing ..." in page 11 and

"The claimed filtering and downsampling (scaling) is joint ..." in page 12, and states

respectively that the prior art reference Callway teaches a sequential process of first de-

interlacing and then scaling (downsampling) whereas the amended claim limitation

states filtering and downsampling jointly [filtering adaptively while downsampling] which

supposedly represents that the de-interlacing and downsampling is jointly accomplished

instead of being sequentially accomplished [see paragraph 023 of Applicants

specification, "We perform the de-interlacing and downsampling jointly using an

adaptive fame/field filtering process"]. The Examiner disagrees because the Applicant

has amended the claim to state "filtering adaptively while downsampling" [filtering and

downsampling jointly] which is entirely different in scope from "de-interlacing and

downsampling jointly" [see paragraph 023 of Applicants specification]. Therefore,

having a de-interlacing module followed by a scaling module (downsampler) still reads

on the broad interpretation of the currently amended claims because the claim *only*

recites that the filtering and downsampling is required to be jointly accomplished. In

response to applicant's argument that the references fail to show certain features of

applicant's invention, it is noted that the features upon which applicant relies (i.e. de-interlacing and downsampling jointly) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). *Also, if the Applicant chooses to further amend the claims in the future to state that the de-interlacing and downsampling are jointly accomplished, the Examiner suggests pointing to the specification on how such a process could be accomplished because the Applicant's Figure 5 which supposedly represents an example of the joint de-interlacing and downsampling seems to the Examiner to be a sequential de-interlacing and downsampling process.* The art rejection will be discussed below.

Claim Rejections - 35 USC § 112

7.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8.   Claims 1 and 3-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The Applicants amendment toward independent claims 1 and 20 recites "filtering adaptively while downsampling" [the filtering and the downsampling is performed jointly] respectively which is inconsistent in scope to the Applicants specification in paragraph [0023] where the Applicant clearly states that the de-interlacing and downsampling is performed jointly by using an adaptive filtering process. Therefore independent claims 1 and 20, and dependent claims 3-19, fail to comply with the written description requirement.

Appropriate correction is required.

9.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10.   Claims 1 and 3-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 8-9 and 14, lines 1-2 respectively: The limitation "the macroblock motion type" lacks clear antecedent basis.

Claims 1 and 20 respectively: The amended limitation "filtering adaptively while downsampling" [filtering and downsampling is performed jointly] renders this claim indefinite and unclear because this claim language is inconsistent in scope with the

Applicants specification in paragraph [023] because the de-interlacing and

downsampling are performed jointly *using* an adaptive filtering process.

Claims 10-11 are dependent upon claim 9.

Claims 3-19 depend upon claim 1.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

11.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12.   Claims 1, 3-5, 7, 12-13, and 15-20 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Sull et al (US 2004/0126021 A1) in view of Johnson (US

2001/0019630 A1).

Re Claim 1: Sull discloses a method for processing a compressed input video /

compressed video streams [see abstract], comprising decoding / IDCT and separation

process (330) the compressed input video / compressed video stream to produce an

interlaced picture / upper and lower interlaced field data (see Fig. 3, paragraph [0090]),

the interlaced picture having a first spatial resolution, and a top-field / upper field and a

bottom-field / lower field (see Fig. 3, paragraphs [0089]-[0090]); producing, for each

macroblock in the interface picture, a macroblock coding type (1620) and a macroblock

transform type / DCT coding type (1630) (see Figs. 16 and 12, paragraph [0216]);

filtering adaptively while downsampling / 1/16 reduced-sized methods using weighted

equations the top-field and the bottom-field of the interlaced picture according to the

macroblock coding type (1620) and the macroblock transform type (1630) to produce a

progressive picture with a second spatial resolution / 1/16 resolution less than the first

spatial resolution (see Fig. 16, paragraph [0216], paragraphs [0218]-[242] which

represent the 1/16 reduced-sized image for frame coded DCT and field coded DCT, it is

seen that these down sizing methods use weighted equations which is basically types of

filtering, paragraph [0086], lines 6, paragraph [0089]), in which the filtering and the

downsampling is performed jointly (see paragraph [0216], paragraphs [0218]-[242], the

weighted equation which represent the filtering are used also to accomplish the down

sizing therefore are jointly accomplished).

However Sull fails to specifically disclose encoding the progressive picture.

Johnson discloses encoding / encoding and compressing the progressive picture

/ source image (see Fig. 1, abstract, the source image [Sull's final image] is encoded

and compressed to provide a single transmission to a display over a finite bandwidth

channel).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Sull's method using Johnson's teachings by

including the encoding and compression to Sull's final image in order to provide a single

transmission to a display over a finite bandwidth channel (see Johnson, Fig. 1,

abstract).

Re Claim 3: Sull further discloses in which the macroblock coding type (1620) includes

intra-coding / intra and inter-coding / inter (see Fig. 16, paragraph [0216]).

Re Claim 4: Sull further discloses in which the macroblock transform type / DCT coding

type (1630) includes a frame-based transform / frame coded and a field-based

transform / field coded (see Fig. 16, paragraph [0216]).

Re Claim 5: Sull further discloses in which the macroblock coding type further includes

a macroblock motion type / motion compensated and corresponding motion vector

when the macroblock coding type is inter-coding / inter (see Fig. 16, ref. No. 1620 and

1660, paragraph [0216], motion compensation uses motion vectors).

Re Claim 7: Sull further discloses in which the filtering includes frame-based filtering /

frame method and field-based filtering / field method (see Fig. 16, ref. No.'s 1640, 1650,

1660, paragraph [0216], paragraphs [0218]-[242], 1/16 reduced-sized image for frame

coded DCT and field coded DCT).

Re Claim 12: Sull further discloses in which the filtering is field-based / field method

when the macroblock coding type is intra-coding / intra and the macroblock transform

type is field-based / field coded (see Fig. 16, ref. No. 1650, paragraph [0216],

paragraphs [0218]-[242]).

Re Claim 13: Sull further discloses in which the filtering is frame-based / frame method

when the macroblock coding type is intra-coding / intra and the macroblock transform

type is frame-based / frame coded (see Fig. 16, ref. No. 1640, paragraph [0216],

paragraphs [0218]-[242]).

Re Claim 15: Sull further discloses in which the filtering is frame-based / frame method

and operates on input samples from the top-field / upper field and bottom-field / lower

field of the interlaced picture / interlaced fields (see Fig. 16, ref. No. 1640, paragraph

[0216], paragraphs [0218]-[242]).

Re Claim 16: Sull further discloses in which the filtering is field-based / field method and

operates on input samples from the top-field / upper field or bottom-field / lower field

(see Fig. 16, ref. No. 1650, paragraph [0216], paragraphs [0218]-[242]).

Re Claim 17: Sull further discloses in which the filtering is field-based / field method and

operates on input samples from the bottom-field / lower field (see Fig. 16, ref. No. 1650,

paragraph [0216], paragraphs [0218]-[242]).

Re Claim 18: Johnson further disclose in which the encoding compresses / encoder and compressor the progressive picture / source image (see Johnson, Fig. 1, abstract, the source image [Sull's final image] is encoded and compressed to provide a single transmission to a display over a finite bandwidth channel).

Re Claim 19: Johnson further discloses rendering the progressive picture on a display device / display (see Johnson, Fig. 1, abstract, the source image [Sull's final image] is encoded and compressed to provide a single transmission to a display over a finite bandwidth channel).

As to claim 20, the claim is the corresponding system claim to claims 1 and 18 respectively. The discussions are addressed with regard to claims 1 and 18.

The limitations, as recited in claim 20, "means for decoding" in line 3 and "means for filtering" in line 8 invoke 35 USC 112, 6th paragraph.

13.   Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sull, as modified by Johnson, and further in view of Simsic et al (US 6,269,484 B1). The teachings of Sull as modified by Johnson have been discussed above.

Re Claim 6: However Sull as modified by Johnson fail to specifically teach in which the macroblock motion type includes frame-based and field-based [Sull does disclose the macroblock motion type as addressed in the discussions with regard to claim 5 above].

Simsic discloses the macroblock motion type includes frame-based and field-based (see Simsic, Fig. 6, 158 tells if the motion type is either field or frame based).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Sull, as modified by Johnson, using Simsic's teachings by including to Sull's macroblock motion type - motion compensation method the frame-based and field-based consideration in order to adaptively filter based also on motion (see Simsic, abstract, 15-19).

Re Claim 8: Sull, as modified by Johnson, further discloses in which filtering is field based / field method using motion compensation when the macroblock coding type is inter-coding / inter (see Sull, Fig. 16, ref. No.'s 1620 and 1660, paragraphs [0216]-[0217]).

However Sull as modified by Johnson, still fail to specifically teach field filtering when the macroblock motion type is field-based.

Simsic discloses filtering when the macroblock motion type is field-based (see Simsic, Fig. 6, col. 9, lines 4-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Sull, as modified by Johnson, using Simsic's teachings by including to Sull's macroblock motion type - motion compensation method the frame-based and field-based consideration in order to adaptively filter based also on motion (see Simsic, abstract, 15-19).

Conclusion

14.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

15.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-

1357. The examiner can normally be reached on Mon-Thur 8:00am-4:00pm and every

other Friday 8:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bernard Krasnic
February 20, 2008

JINGGE WU
SUPERVISORY PATENT EXAMINER